

## ANNULAR AND HELICAL PROFILE

								BAR AND STRAP (CSP ONLY)				ANGLE							
COUPLING TYPE	PIPE CORRUGATION	PIPE SIZE	W OR A	PIPE WALL THICKNESS		BAND THICKNESS		STRAP THICKNESS	BOLTS Dia	BAR Dia	BAR YIELD STRENGTH	DIMENSIONS		BOLTS (No. - Dia)		RIVETS ANGLE TO BAND		SPOT WELDS ANGLE TO BAND	
				CSP	CAP	CSP	CAP					CSP	CAP	CSP	CAP	CSP	CAP		
TWO PIECE INTEGRAL FLANGE	1½" x ¼"	6"-10"	7"	0.064"-0.079"	0.060"	0.064"	0.060"							2-⅜"	2-⅜"				
UNIVERSAL	2⅔" x ½"	12"-24"	12"	0.064"-0.138"	0.060"-0.105"	0.064"	0.060"							3-½"	3-½"				
		THROUGH 36"	12"	0.064"-0.138"	0.060"-0.135"	0.064"	0.060"	0.079"	½"	⅞"	32 ksi	2" x 2" x ⅜"	2" x 2" x ⅜"	3-½"	3-½"	3-⅜"	3-⅜"	5-½"	
ANNULAR	2⅔" x ½"	THROUGH 36"	12"	0.064"-0.138"	0.060"-0.135"	0.064"	0.060"	DOUBLE 0.079"	½"	⅞"	32 ksi	2" x 2" x ⅜"	2" x 2" x ⅜"	3-½"	3-½"	3-⅜"	3-⅜"	5-½"	
		42"-60"	12"	0.064"-0.079"		0.064"						2" x 2" x ⅜"	2" x 2" x ⅜"	3-½"	3-½"	3-⅜"	3-⅜"	5-½"	
		42"-60"	12"	0.109"-0.168"	0.135"-0.164"	0.064"	0.075"					2" x 2" x ¼"	2" x 2" x ¼"	3-½"	3-½"	5-⅜"	5-⅜"	5-½"	
		66"-72"	24"		0.164"		0.105"					2" x 2" x ¼"	2" x 2" x ¼"	5-½"	5-½"	5-½"	5-½"		
		66"-84"	24"	0.109"-0.168"		0.064"						2" x 2" x ¼"		5-½"		7-⅜"			
		42"-54"	12"		0.060"-0.105"		0.060"					2" x 2" x ⅜"		3-½"		3-⅜"			
	3" x 1"	48"-60"	14"	0.064"-0.079"		0.064"						2" x 2" x ⅜"		3-½"		3-⅜"		5-½"	
		48"-60"	14"	0.109"		0.064"						2" x 2" x ⅜"		3-½"		5-⅜"			
		66"-120"	25"	0.064"-0.109"		0.064"						2" x 2" x ⅜"		5-½"		9-⅜"			
		42"-60"	14"		0.060"-0.105"		0.060"					2" x 2" x ⅜"	2" x 2" x ⅜"	3-½"		5-⅜"			
		42"-60"	14"		0.135"		0.075"					2" x 2" x ¼"	2" x 2" x ¼"	3-½"		5-⅜"			
		66"-96"	25"		0.060"-0.135"		0.060"					2" x 2" x ¼"	2" x 2" x ¼"	5-½"		7-⅜"			
		96"-108"	25"		0.135"		0.075"					2" x 2" x ¼"	2" x 2" x ¼"	5-½"		7-⅜"			
		2⅔" x ½"	THROUGH 36"	12"	0.064"-0.138"	0.060"-0.135"	0.064"	0.060"					2" x 2" x ⅜"	2" x 2" x ⅜"	3-½"	3-½"	3-⅜"	3-⅜"	5-½"
			42"-54"	12"		0.060"-0.105"		0.060"					2" x 2" x ⅜"	2" x 2" x ⅜"	3-½"	3-½"	3-⅜"	3-⅜"	
			42"-60"	12"	0.064"-0.079"		0.064"						2" x 2" x ⅜"	2" x 2" x ⅜"	3-½"		3-⅜"		5-½"
42"-60"	12"		0.109"-0.168"	0.135"-0.164"	0.064"	0.075"					2" x 2" x ¼"	2" x 2" x ¼"	3-½"	3-½"	5-⅜"	5-⅜"			
66"-84"	24"		0.109"-0.168"		0.064"						2" x 2" x ¼"	2" x 2" x ¼"	5-½"		7-⅜"				
66"-72"	24"			0.164"		0.105"					2" x 2" x ¼"	2" x 2" x ¼"	5-½"		5-⅜"				
HELICAL	2⅔" x ½"	48"-60"	14"	0.064"-0.079"		0.064"					2" x 2" x ⅜"	2" x 2" x ⅜"	3-½"		3-⅜"		5-½"		
		48"-60"	14"	0.109"		0.064"					2" x 2" x ⅜"		3-½"		5-⅜"				
		66"-120"	25"	0.064"-0.109"		0.064"					2" x 2" x ⅜"		5-½"		9-⅜"				
		42"-60"	14"		0.060"-0.105"		0.060"					2" x 2" x ⅜"	2" x 2" x ⅜"	3-½"		5-⅜"			
		42"-60"	14"		0.135"		0.075"					2" x 2" x ¼"	2" x 2" x ¼"	3-½"		5-⅜"			
		66"-96"	25"		0.060"-0.135"		0.060"					2" x 2" x ¼"	2" x 2" x ¼"	5-½"		7-⅜"			
	3" x 1"	96"-108"	25"		0.135"		0.075"					2" x 2" x ¼"	2" x 2" x ¼"	5-½"		7-⅜"			
		2⅔" x ½" REROLLED END	THROUGH 48"	10½"	0.109"		0.064"		0.079"	½"	⅞"	32 ksi							
			54"-66"	10½"	0.109"		0.064"		DOUBLE 0.079"	½"	⅞"	32 ksi							
			THROUGH 54"	10½"	0.064"-0.079"		0.064"		0.079"	½"	⅞"	32 ksi							
THROUGH 60"	10½"		0.138"		0.079"		DOUBLE 0.079"	½"	⅞"	32 ksi									
66"-72"	10½"		0.138"		0.109"		DOUBLE 0.079"	½"	⅞"	32 ksi									
THROUGH 72"	10½"		0.168"		0.109"		DOUBLE 0.109"	½"	⅞"	45 ksi									
3" x 1" REROLLED END	48"-84"	10½"	0.109"		0.079"		DOUBLE 0.079"	½"	⅞"	32 ksi									
	48"-90"	10½"	0.064"-0.079"		0.064"		DOUBLE 0.079"	½"	⅞"	32 ksi									
	96"-102"	10½"	0.079"		0.079"		DOUBLE 0.079"	½"	⅞"	32 ksi									
	90"-120"	10½"	0.109"		0.109"		DOUBLE 0.109"	½"	⅞"	45 ksi									

## SPIRAL RIB PROFILE

SPIRAL RIB PROFILE												ANGLE							
				PIPE WALL THICKNESS		BAND THICKNESS		BAR AND STRAP (SSRP ONLY)				DIMENSIONS		BOLTS (No.- Dia)		RIVETS ANGLE TO BAND		SPOT WELDS ANGLE TO BAND	
COUPLING TYPE	PIPE CORRUGATION	PIPE SIZE	W	SSRP	ASRP	SSRP	ASRP	STRAP THICKNESS	BOLTS Dia	BAR Dia	BAR YIELD STRENGTH	SSRP	ASRP	SSRP	ASRP	SSRP	ASRP	SSRP	
ANNULAR	2½" x ½" x REROLLED END	24"-36"	12"	0.064"-0.109"	0.060"-0.105"	0.064"	0.060"	0.079"	½"	⅞"	32 ksi	2" x 2" x ⅜"	2" x 2" x ⅜"	3-½"	3-½"	3-⅜"	3-⅜"	5-½"	
		42"-60"	12"	0.064"-0.079"	0.075"-0.105"	0.064"	0.075"	0.079"	½"	⅞"	32 ksi	2" x 2" x ⅜"	2" x 2" x ⅜"	3-½"	3-½"	3-⅜"	3-⅜"	5-½"	
		42"-60"	12"	0.109"		0.064"		0.079"	½"	⅞"	32 ksi	2" x 2" x ¼"			3-½"		5-⅜"		
		66"-84"	24"	0.109"		0.064"		0.079"	½"	⅞"	32 ksi	2" x 2" x ¼"			5-½"		7-⅞"		
HUGGER	2½" x ½" x REROLLED END	24"-54"	10½"	0.064"-0.079"		0.064"		0.079"	½"	⅞"	32 ksi								
		24"-48"	10½"	0.109"		0.064"		0.079"	½"	⅞"	32 ksi								
		54"-66"	10½"	0.109"		0.064"		DOUBLE 0.079"	½"	⅞"	32 ksi								

\* See Note 12.

12. All profiles of Spiral Rib Pipe (3/4" x 3/4" ribs at 7 1/2" pitch and 3/4" x 1" ribs at 11 1/2" pitch in both steel and aluminum and 3/4" x 1" ribs at 8 1/2" pitch in steel only) shall be manufactured with rerolled ends. Corrugation profile of the rerolled ends shall be 2 2/3" x 1/2" annular corrugations with a minimum of two full corrugations at each end.

Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET NO.	TOTAL SHEETS
REGISTERED CIVIL ENGINEER May 31, 2018 PLANS APPROVAL DATE THE STATE OF CALIFORNIA OR ITS OFFICERS OR AGENTS SHALL NOT BE RESPONSIBLE FOR THE ACCURACY OR COMPLETENESS OF SCANNED COPIES OF THIS PLAN SHEET.					
BRUCE D. SWANGER No. C61257 Exp. 6-30-19 CIVIL STATE OF CALIFORNIA					

## NOTES:

- For helically corrugated coupling bands, the connection angles may be oriented parallel to the pipe axis, provided connecting holes are slotted lengthwise sufficiently to allow adjustment for the helix angle.
- Tension strap may be connected to band with either spot welds or fillet welds that develop minimum required strength of strap.
- Use 1/4" gage line dimension on attached angle leg for rivets and spot welds.
- Band thickness shall not be less than:
  - 3 standard thicknesses lighter than the thickness of the pipe for Corrugated Steel Pipe.
  - 2 standard thicknesses lighter than the thickness of the pipe and in no case lighter than 0.060" for Corrugated Aluminum Pipe.
- Dimensions, thicknesses and strengths shown are minimum.
- For pipe arches use same width band as for round pipe of equal periphery.
- Fillet welds of equivalent strength may be substituted for spot welds or rivets.
- Spot welds shall develop minimum required strength of strap.
- Pipe with rerolled ends having at least two 2 2/3" x 1/2" annular corrugations at each end with or without an upturned flange may be connected with any of the annular coupling bands shown for pipe of the same diameter and wall thickness and having 2 2/3" x 1/2" corrugations.
- In the case of H-12 huggerbands, two piece bands are required for diameters through 96" and three piece bands are required for diameters 102" through 120".
- Two piece bands are required for pipes greater than 42" diameter.

STATE OF CALIFORNIA  
DEPARTMENT OF TRANSPORTATION  
**CORRUGATED METAL PIPE  
COUPLING DETAILS No. 6  
POSITIVE JOINT**

NO SCALE

**D97F**